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| **Research Method:** | **Non-Experimental Quantitative Designs (NEQDs)** |
| **Definition:** | A research design in which the researcher measures or observes subjects without attempting to introduce a treatment. |
| **Types of NEQD:** | Correlational studies and multiple regression analysis, Path Analysis. |
| **Advantages:** | **Regression (simple and multiple)**   * Allows for:   + The study of independent variables over which the research cannot have any control.   + The manipulation of variables in theory that cannot often be manipulated in practice.   + Knowledge about many different variables at once and how those variables relate.   + The study of variables *as they exist*.   + Knowledge of what variables may be worth studying in the future. * Control variables and well defined or supported theories can sometimes lead to supports of causality among correlated variables. |
| **Disadvantages:** | **Regression (simple and multiple)**   * Determining causality and/or the direction of causality. * Mutual causality * Selection bias * Spurious correlations |
| **How to Use in Program Evaluation:** | * Explore the relationship(s) between two or more variables or elements of a program (regression). * Use the knowledge of two correlated variables to inform practice or program revisions and implementation (regression or path analysis). * NEQDs *can* require the usage of an underlying theory to explain or interpret correlations. Control variables are then employed to further rule out the effects of extraneous variables on the variables that our theory may have causally linked. |
| **Example, Regression:** | In Goal 3 of the Bridges grant, suppose we want to know about the relationship between variables associated with our e-mentoring program:   * *hours spent engaged with online mentor* * *mentee’s choice of assigned mentor teacher,* * *shared lesson planning time with mentor,* * *mentor release from classroom teaching time*   and retention status of a teacher *(e.g. not retained, retained)*.  *Simple regression* could tell a program evaluator if each of the independent (predictor) variables of e-mentoring are correlated with retention rates (dependent or criterion variables) as well as how highly they are correlated (the closer the correlation is to -1.0 or +1.0, the more the two variables are correlated). For example, we could find through a series of simple regressions that hours spent with online mentor and retention are correlated at +0.75; mentee’s choice of assigned mentor teacher and retention are correlated at +0.33; shared lesson planning time and retention are correlated at +0.68; and mentor release time and retention are correlated at +0.52. However, that is all these simple regressions can tell us.  *Multiple regression* helps a program evaluator learn more about the relationship between several independent (predictor) variables and a dependent (criterion) variable. For example, it would be interesting to which variable is the BEST predictor of retention when compared to others. For example, you might learn that hours spent engaged with online mentor is a better predictor of retention of a particular sample of teachers than how much release time the mentor had from classroom teaching. |